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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,973

12/02/2003

Hermann Schleicher

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EXAMINER

TAOUSAKIS, ALEXANDER P

ART UNIT

PAPER NUMBER

3726

MAIL DATE

DELIVERY MODE

08/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/725,973

Applicant(s)

SCHLEICHER ET AL.

Examiner

Alexander P. Taousakis

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/02/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of claim 1-11 in the reply filed on 06/18/2007 is acknowledged.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gomi et al. (Patent No. 6,382,916).**

Claim 1:

Gomi et al. teaches a method of manufacturing a hydrodynamic torque converter of the type comprising a pump wheel and turbine wheel (*see Figure 6*), each said wheel comprising an outer shell, an inner shell, and a plurality of vanes (3) connecting said shells, each said vane (3) having edges facing said shells (*see Figure 2 and column 1 lines 7-12, where it discloses that the vane members shown in the Figures pertain to a blade assembly for either a turbine or pump of the hydrodynamic torque converter, therefore the connection between the vane (3) and the shell seen in Figure 2 teaches the connection for the turbine vanes and pump vanes of a hydrodynamic torque converter*),

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the method comprising providing a vane plate (A) for each said vane (3) (*see Figure 4*), and removing material from said vane plate to create open areas (15) surrounding a vane (3) in the vane plate (A) (*see Figure 4*).

## Claim 2:

Gomi et al. teaches a method as in claim 1 wherein said open areas (15) lie within a plate frame (7a, 8a) which is connected to the vane (3) by holding fins (the connection between the vane (3) and the frame 8a) (*see Figure 4 and column 4 lines 30-34*).

## Claim 3:

Gomi et al. teaches a method as in claim 2 wherein each said vane (3) comprises a curved zone (the zone between (3f) and (3c)) (*see Figure 3C*) and a flat zone (the zone between (3c) and (3e), and note that the flat zone is most clearly shown in the side view in Figure 3c, where the upper portion of the vane (3) is on a single plane, and the lower portion has a contour of a curve) separated by a neutral line (*The neutral line is not labeled in the Figures, but can be seen in Figure 3c as the point of transition from the flat zone to the curved zone, which is at a horizontal line to 3c*), said holding fins (4) being linearly aligned with said neutral line (*see Figure 3c side view, and note that the holding fins are aligned with the flat zone, which are aligned with the neutral line*).

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Claim 7:

Gomi et al. teaches a method as in claim 1, wherein said vane (3) has a leading flow edge (seen at (3c)) and a trailing flow edge (3d), said method further comprising pressing said vane plate (A) to smooth the surface of the vane (3) at the leading trailing edges *(see column 4 lines 22-29, where it discloses burrs which may occur on edges 3c and 3d are removed in a coining operation, which will perform the operation of making the worked surface smooth).*

Claim 8:

Gomi et al. teaches a method as in claim 2 further comprising separating said vane (3) from said plate frame (8a) and said holding fins (the connection between the vane (3) and the frame 8a) by an industrial separating operation *(see column 2 lines 40-44, where it discloses that a punching operation is used to form the vane (3) from a metal plate).*

Claim 9:

Gomi et al. teaches a method as in claim 1 further comprising cutting said vane (3) plates from a strip material (see Figure 4 and column 2 lines 52-54).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomi et al. (Patent No.: 6,382,916) in view of Herold (Patent No. 3,550,234).**

Gomi et al. teaches a method as in claim 1.

Gomi et al. fails to teach a copper plating vane plate.

Herold teaches a copper coating on a vane (1) of a hydrodynamic torque converter by electroplating (*See Figure 4 and column 1 line 67- column 2 line 5*)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form an electroplated copper coating onto the vane (3) of Gomi et al., using the electroplating method of Herold, because it the copper layer can be used as the brazing material for connecting the vane (3) to the shell, such as the brazed connection between the external edge (3a) and the shell (6).

***Allowable Subject Matter***

Claims 4-6 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art teaches a method of manufacturing a hydrodynamic torque converter comprising pump and turbine wheels, each wheel comprising an outer shell, an inner shell, a plurality of vanes connecting the shells and each vane having edges facing the shells, a method comprising providing a vane plate for each vane, and removing material from the vane plate to create open areas surrounding a vane in the vane plate.

The prior art fails to teach a method of manufacturing a hydrodynamic torque converter comprising providing each vane with connecting elements having a root which is connected to an adjacent edge by a transition, where at least one transition is formed as a relief notch having a transition radius between the edge and connecting element.

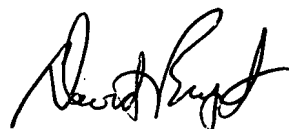
The provided relief notch provides a smooth transition from a flat zone to a curved zone of the vane, so as to increase its stability and flow.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander P. Taousakis whose telephone number is (571)272-3497. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571)2724526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

APT



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

8/20/07